



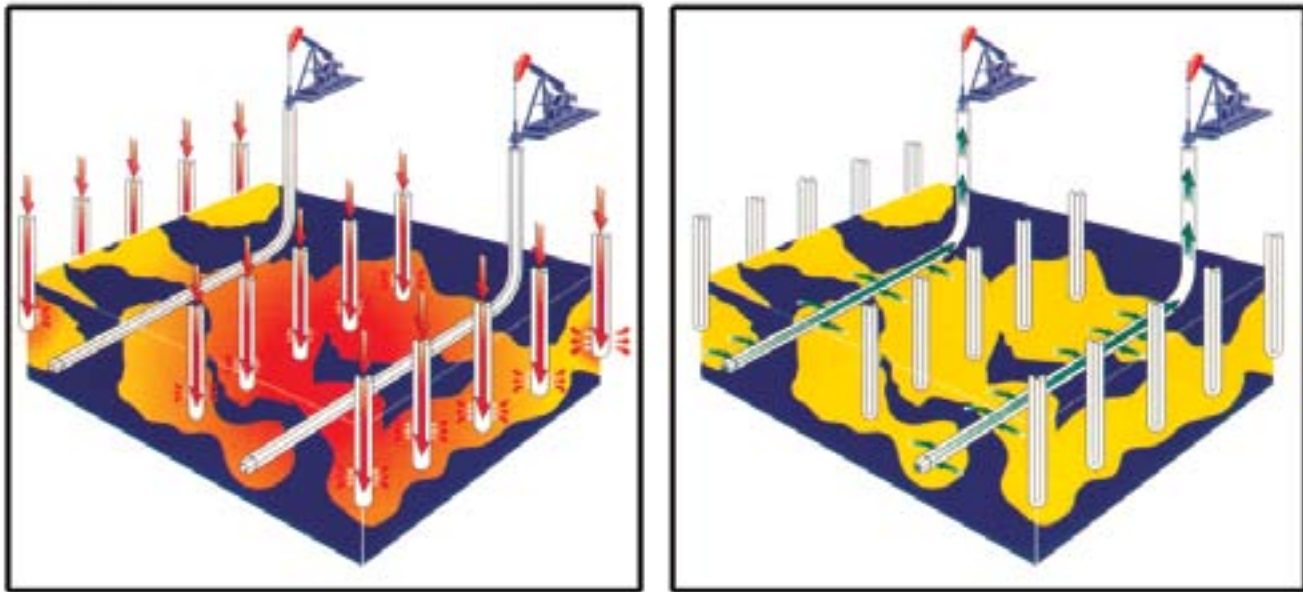
# AGAR CORPORATION

Process Measurement & Control Solutions

## HIGH TEMPERATURE HEAVY OIL STEAM FLOOD APPLICATIONS

As oil becomes heavier and more viscous, it is more and more difficult to get the oil to flow into the well bore where it can be pumped to the surface. This heavy Canadian oil is often referred to as bitumen and has an API gravity ranging from 8—14. Bitumen has the consistency of thick molasses at room temperature. It is so heavy that it will not flow naturally from the underground formation to the surface without being heated. These oil-bearing formations/sands are often located several 100 meters below the surface—these deep oil sands can not be surface-mined like the shallow oil sands in the Ft McMurry area.

Instead, production is achieved through wells drilled from the surface. One of the processes used to produce bitumen is a cyclic steam stimulation (informally known as “huff and puff”) where steam is injected into the formation to heat and thin the bitumen so that it can be produced by conventional means.



Wells are clustered together in pads consisting of 20-40 wells. Each well is directionally drilled to minimize surface disturbance and is configured to provide access to the largest area of the underground oil-sands formation as possible.

**Heavy Oil Applications**

# High Temperature Heavy Oil



**HEADQUARTERS - CAYMAN ISLAND:** Agar Corporation, LTD - P.O. Box 10206 - Grand Cayman, BWI - KY1-1002 - Tel: (345) 945-5242 - [ACL@agarcorp.com](mailto:ACL@agarcorp.com)

## USA

Agar Corporation  
5150 Tacoma Drive  
Houston, TX 77041  
Tel: (832) 476-5100  
Fax: (832) 476-5299  
[ACI@agarcorp.com](mailto:ACI@agarcorp.com)

## CANADA

Agar Canada Corp  
Unit 406, 5723-10 St NE  
Calgary, AB T2E 8W7  
Tel: (403) 718-9880  
Fax: (403) 450-8350  
[Sales@agarcorp.ca](mailto:Sales@agarcorp.ca)

## VENEZUELA

Agarcorp de Venezuela C.A.  
77 Edif. 5 de Julio, Piso 4, Oficina  
D-4, Sector Tierra Negra, Zona  
Postal 4002, Maracaibo, Edo. Zulia  
Tel: +58 261 324 5789  
[ADV@agarcorp.com](mailto:ADV@agarcorp.com)

## MALAYSIA

AgarCorp SDN. BHD.  
168-1st Fl Main Rd Salak S  
57100 Kuala Lumpur  
Tel: 603-7980-7069  
Fax: 603-7980-5369  
[ACSB@agarcorp.com](mailto:ACSB@agarcorp.com)

## SAUDI ARABIA

AgarCorp (ACSA)  
P.O. Box 1158  
Al Khobar 31952  
Tel: 966-3-864-3011  
Fax: 966-3-894-5837  
[ACSA@agarcorp.com](mailto:ACSA@agarcorp.com)

## ABU DHABI

Agar Corporation (ACAD)  
1505, Three Sails Tower  
Corniche, Khalidiya  
Abu Dhabi, UAE  
Tel: 971-2681-1150  
[ACAD@agarcorp.com](mailto:ACAD@agarcorp.com)

## INDONESIA

PT AgarCorp Indonesia  
Jalan Teratai CB-17  
Ciputat Baru, Ciputat  
Tangerang 15413  
Tel: 62 21 7409206  
[PTAI@agarcorp.com](mailto:PTAI@agarcorp.com)



# AGAR CORPORATION

[www.agarcorp.com](http://www.agarcorp.com)